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CLAIMS:

1. A method for concealing an information pattern of multiple discrete values within a digital signal, the method comprising:

receiving the information pattern of multiple discrete values;

chessboarding the discrete values of the information pattern to produce chessboarded discrete values.

2. A method as recited in claim 1 further comprising encoding the chessboarded discrete values into the digital signal, wherein such signal is noise in relation to the information pattern.

3. A method as recited in claim 1, wherein the chessboarding comprises:

pseudorandomly determining whether to change each discrete value of the information pattern, wherein such determining is based upon a pseudorandom number generator (PRNG) and a key;

changing each discrete value of the information pattern that the determining indicates should be changed, thereby producing chessboarded discrete values.

4. A method as recited in claim 1, wherein the chessboarding comprises:

pseudorandomly determining whether to change each discrete value of the information pattern, wherein such determining is based upon a look-up table;

changing each discrete value of the information pattern that the determining indicates should be changed, thereby producing chessboarded discrete values.

5. A method as recited in claim 1, wherein the chessboarded discrete values are entropy-balanced.

6. A method as recited in claim 1, wherein the chessboarded discrete values are absolutely chessboarded.

7. A method as recited in claim 1, wherein the digital signal is an digital audio signal.

8. A computer-readable medium having computer-executable instructions that, when executed by a computer, performs the method as recited in claim 1.

9. A method for revealing an information pattern of multiple chessboarded discrete values within a digital signal, wherein the chessboarded discrete values correspond to original discrete values of the information pattern before the values were chessboarded, the method comprising:

receiving the information pattern of multiple chessboarded discrete values;

un-chessboarding the chessboarded discrete values to produce the original values of the information pattern.

10. A method as recited in claim 9 further comprising detecting the original discrete values encoded in the digital signal, wherein such signal is noise in relation to the information pattern.

11. A method as recited in claim 9, wherein the un-chessboarding comprises:

pseudorandomly determining whether to change each chessboarded discrete value of the information pattern, wherein such determining is based upon a pseudorandom number generator (PRNG) and a key;

changing each chessboarded discrete value of the information pattern that the determining indicates should be changed, thereby producing the original discrete values of the information pattern.

12. A method as recited in claim 11, wherein the key of the un-chessboarding is identical to a key used to generate the chessboarded discrete values from the original discrete values.

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13. A method as recited in claim 9, wherein the un-chessboarding comprises:

pseudorandomly determining whether to change each chessboarded discrete value of the information pattern, wherein such determining is based upon a look-up table;

changing each chessboarded discrete value of the information pattern that the determining indicates should be changed, thereby producing the original discrete values of the information pattern.

14. A method as recited in claim 9, wherein the chessboarded discrete values are entropy-balanced.

15. A method as recited in claim 9, wherein the chessboarded discrete values are absolutely chessboarded.

16. A method as recited in claim 9, wherein the digital signal is an digital audio signal.

17. A computer-readable medium having computer-executable instructions that, when executed by a computer, performs the method as recited in claim 9.

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18. A computer-readable medium having computer-executable instructions that, when executed by a computer, perform a method for concealing an information pattern of multiple discrete values within a digital signal, the method comprising:

receiving the information pattern of multiple discrete values;

chessboarding the discrete values of the information pattern to produce chessboarded discrete values;

encoding the chessboarded discrete values into the digital signal, wherein such signal is noise in relation to the information pattern.

19. A computer-readable medium having computer-executable instructions that, when executed by a computer, perform a method for revealing an information pattern of multiple chessboarded discrete values within a digital signal, wherein the chessboarded discrete values correspond to original discrete values of the information pattern before the values were chessboarded, the method comprising:

receiving the information pattern of multiple chessboarded discrete values;

un-chessboarding the chessboarded discrete values to produce the original values of the information pattern;

detecting the original discrete values encoded in the digital signal, wherein such signal is noise in relation to the information pattern.

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20. An apparatus comprising:

a processor;

a chessboarder executable on the processor to:

receive an information pattern of multiple discrete values;

chessboard the discrete values of the information pattern to produce chessboarded discrete values.

21. An apparatus comprising:

a processor;

an un-chessboarder executable on the processor to:

receive an information pattern of multiple chessboarded discrete values;

un-chessboard the chessboarded discrete values to produce original values of the information pattern.

22. An information pattern encoding system for concealing an information pattern of multiple discrete values within a digital signal, wherein such signal is noise in relation to the information pattern, the system comprising:

a receiver for receiving the information pattern of multiple discrete values and the digital signal;

a chessboarder coupled to such receiver, the chessboarder chessboards the discrete values received from the receiver to produce chessboarded discrete values;

an encoder coupled to the receiver and the chessboarder, the encoder inserts the chessboarded discrete values received from the chessboarder into the digital signal received from the receiver.

23. An encoding system as recited in claim 22, wherein the chessboarder comprises:

a pseudorandom number generator (PRNG) for pseudorandomly determining whether to change each discrete value of the information pattern;

a value-adjuster to change each discrete value of the information pattern that the PRNG indicates should be changed, thereby producing chessboarded discrete values.

24. An encoding system as recited in claim 22, wherein the chessboarder comprises:

a look-up table data structure for pseudorandomly determining whether to change each discrete value of the information pattern;

a value-adjuster to change each discrete value of the information pattern that the data structure indicates should be changed, thereby producing chessboarded discrete values.

25. An encoding system as recited in claim 22, wherein the chessboarded discrete values are entropy-balanced.

26. An encoding system as recited in claim 22, wherein the digital signal is a digital audio signal.

27. An operating system comprising an encoding system as recited in claim 22.

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28. A marked signal with an information pattern of multiple chessboarded discrete values encoded therein, the marked signal generated in accordance with the following acts:

receiving an information pattern of multiple discrete values and an unmarked signal;

chessboarding the discrete values of the information pattern to produce chessboarded discrete values of the information pattern;

encoding the chessboarded discrete values into the unmarked signal to produce the marked signal, wherein such unmarked signal is noise in relation to the information pattern.

29. A marked signal as recited in claim 28, wherein the chessboarding comprises:

pseudorandomly determining whether to change each discrete value of the information pattern, wherein such determining is based upon a pseudorandom number generator (PRNG) and a key;

changing each discrete value of the information pattern that the determining indicates should be changed, thereby producing chessboarded discrete values.

30. A marked signal as recited in claim 28, wherein the chessboarding comprises:

pseudorandomly determining whether to change each discrete value of the information pattern, wherein such determining is based upon a look-up table;

changing each discrete value of the information pattern that the determining indicates should be changed, thereby producing chessboarded discrete values.

31. A marked signal as recited in claim 28, wherein the chessboarded discrete values are entropy-balanced.

32. A marked signal as recited in claim 28, wherein the chessboarded discrete values are absolutely chessboarded.

33. A marked signal as recited in claim 28, wherein the marked and unmarked signals are digital audio signals.

34. A method for encoding values within a digital audio signal, the method comprising:

receiving the digital audio signal having frequency magnitude components;

analyzing the relative energy levels of the frequency magnitude components of the signal;

determining whether the signal has a large discrepancy in the relative energy levels of the frequency magnitude components.

35. A method as recited in claim 34 further comprising if the signal has no large discrepancy in the relative energy levels of the frequency magnitude components, then encoding at least one value into the signal.

36. A method as recited in claim 34 further comprising if the signal has a large discrepancy in the relative energy levels of the frequency magnitude components, then skipping encoding values into the signal.

37. A computer-readable medium having computer-executable instructions that, when executed by a computer, perform a method for encoding values within a digital audio signal, the method comprising:

receiving the digital audio signal having frequency magnitude components;

analyzing the relative energy levels of the frequency magnitude components of the signal;

determining whether the signal has a large discrepancy in the relative energy levels of the frequency magnitude components.

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38. A watermark encoding system for encoding bits of a digital watermark within a digital audio signal having frequency magnitude components, the system comprising:

an analyzer to examine the relative energy levels of the frequency magnitude components of the signal and determine whether the signal has a large discrepancy in the relative energy levels of the frequency magnitude components;

an encoder coupled to the analyzer, the encoder is configured to insert at least one bit of the digital watermark into the digital signal.

39. A system as recited in claim 38, wherein the encoder inserts at least one bit of the digital watermark into the digital signal if the analyzer determines that the signal has no large discrepancy in the relative energy levels of the frequency magnitude components.

40. A system as recited in claim 38, wherein the encoder does not insert a bit of the digital watermark into the digital signal if the analyzer determines that the signal has a large discrepancy in the relative energy levels of the frequency magnitude components.

41. A method for encoding a watermark within a audio signal, the signal having a starting point, the method comprising:

calculating a variable amount of time;

after that variable amount of time after the starting point of the signal, encoding a watermark into the signal.

42. A method as recited in claim 41, wherein the calculating comprises pseudorandomly determining the variable amount of time, wherein such determining is based upon a pseudorandom number generator (PRNG) and a key.

43. A computer-readable medium having computer-executable instructions that, when executed by a computer, perform a method for encoding a watermark within a audio signal, the signal having a starting point, the method comprising:

calculating a variable amount of time;

after that variable amount of time after the starting point of the signal, initiating encoding a watermark into the signal.

44. A method for detecting a watermark within a audio signal, the signal having a starting point, the method comprising:

calculating a variable amount of time;

after that variable amount of time after the starting point of the signal, initiating detection of a watermark in the signal.

45. A method as recited in claim 44, wherein the calculating comprises pseudorandomly determining the variable amount of time, wherein such determining is based upon a pseudorandom number generator (PRNG) and a key.

46. A method as recited in claim 45, wherein the key is identical to a key used to determine when to initiate encoding of the watermark in the signal.